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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/579,777

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Hiraku Ishikawa

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EXAMINER

AHMED, SHAMIM

ART UNIT

PAPER NUMBER

1792

MAIL DATE

DELIVERY MODE

10/27/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/579,777	ISHIKAWA, HIRAKU	
	Examiner	Art Unit	
	Shamim Ahmed	1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 February 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 February 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>5/18/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuyama et al (JP 10-022279) in view of Yuda et al (6,663,715).

Fukuyama et al disclose a CVD apparatus and process of forming film, wherein a substrate (20) is mounted on a mounting unit; a high frequency wave generator (8) and generating oxygen plasma and plasma generating gas such as oxygen is supplying from a lateral and lower side relative to the high frequency wave supply unit (paragraphs 0002-0005 and figures 1-2).

Fukuyama et al also disclose supplying source gas injector (21) for supplying film forming gas into a region on the mounting unit and the electrode (51) having opening to allow plasma to pass the region onto the mounting region that plasma is generated by the high frequency wave generator (paragraph 0024).

Fukuyama et al remain silent regarding the source gas injector having the opening to pass through the plasma generated in between the high frequency generator and the electrode (51).

However, Yuda et al teaches supplying source gas (film forming gas, 19) and plasma confining electrode (5) having opening in a single body and the oxygen radical

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(21) from the oxygen plasma passes through hole or opening 13 to react with the source gas to form a film on the substrate, wherein the confining electrode unit (5) partitioning the CVD chamber into two such as plasma confining area, which resemble as the claimed high frequency wave supply side and substrate mounting unit side (col.7, lines 61-col.8, lines 1-20 and figures 8,9).

Yuda et al also teach that the holes are provided in such that the gas distribution in a uniform surface density (col.7, lines 11-17).

Therefore, it would have been obvious to one of ordinary skilled in the art at the time of claimed invention to employ Yuda et al's teaching into Fukuyama et al's process for uniformly distribution of the radicals as taught by Yuda et al.

As to claims 2 and 4, Yuda et al teach that a plurality of plasma excitation gas supply port are arranged in the apparatus (see figure 8-9) and therefore, the apparatus is capable of to supplying another plasma excitation gas.

As to claims 7-8, Fukuyama et al teach that the plasma exciting or generating gas oxygen supply port is arranged in the upper surface of the modified source gas supply port along with the plasma confining electrode (5) with holes to passes plasma through it.

As to claim 10, Fukuyama et al teach the oxygen gas supply through a gas flow control unit, which resemble as the sensor for detecting the gas concentration (see paragraph 0003).

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hawkins et al (5,819,684) illustrate a gas injector system in a CVD chamber with lateral gas flow for uniform gas distribution; Kaitila et al (2002/0158714) teach lateral gas flow below the high frequency wave unit (see figure 3b).

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shamim Ahmed whose telephone number is (571) 272-1457. The examiner can normally be reached on Tu-Fri (6:00-2:30) Every Monday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nadine G. Norton can be reached on (571) 272-1465. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/Shamim Ahmed/
Primary Examiner, Art Unit 1792

SA
October 25, 2008